



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,481	09/08/2003	Richard Chiles	3515.1	2662

22886 7590 01/12/2007
AFFYMETRIX, INC
ATTN: CHIEF IP COUNSEL, LEGAL DEPT.
3420 CENTRAL EXPRESSWAY
SANTA CLARA, CA 95051

EXAMINER

LIN, JERRY

ART UNIT	PAPER NUMBER
----------	--------------

1631

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/657,481

Applicant(s)

CHILES ET AL.

Examiner

Jerry Lin

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 13-20, 26-29, 31-34, 36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 13-20, 26-29, 31-34, 36, and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. However, in light of newly discovered art, the following rejections are newly applied. They constitute the complete set presently being applied to the instant application.

Status of the Claims

Claims 1-7, 13-20, 26-29, 31-34, 36, and 37 are under examination.

Claims 8-12, 21-25, 30, and 35 are cancelled.

Claim Rejections - 35 USC § 112, 2nd Paragraph

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claim is drawn to both a product (a user computer) and a method (receiving, generating, assembling, displaying). However, a single claims that is drawn to a both a product and a method is indefinite

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Art Unit: 1631

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 27 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The instant claim is drawn to both a product (a user computer) and a method (receiving, generating, assembling, displaying). The instant claims overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which sets forth the statutory classes of invention in the alternative only.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1631

6. Claims 1-7, 13-20, 26-29, 31-34, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neville et al. (US 2005/0196771 A1) in view of Koleszar et al. (US 6,519,583).

The instant claims are drawn to a method of displaying genotype calls from probe array experiments using emission intensity values, and wherein the display includes a first pane that displays a first region of sequence, a second pane that displays a second region of sequence from the first region, and a third pane that displays a third region of sequence from the second region.

Regarding claims 1, 14, and 27, Neville et al. disclose receiving one or more sets of emission intensity data that is associated with a probe on a probe array (page 21, paragraph 0219-0220), generating a plurality of genotype calls which are based partially on the emission intensity values and using models (matrices) to specify nucleic acid composition (page 5, paragraph 0033-0034); assembling and displaying the genotype calls in one or more planes of a graphical user interface (page 6, paragraph 0051; Figure 16B). Neville et al. also disclose a computer with a memory (page 3, paragraph 0023), and implementing his method through executable code (page 24, paragraph 0252-page 25, paragraph 0254). Furthermore, Neville et al. disclose displaying one or more genotype calls in a first, second and third pane (figure 7, and figure 12A-j).

However, Neville et al. does^S not explicitly teach a display includes a first pane that displays a first region of sequence, a second pane that displays a second region of sequence from the first region, and a third pane that displays a third region of sequence from the second region.

Kolezar et al. disclose a method of displaying after receiving biomolecular sequence information that includes a first pane that displays a first region of sequence, a second pane that displays a second region of sequence from the first region, and a third pane that displays a third region of sequence from the second region (column 5, line 5- column 6, line15).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the methods of Neville et al. and Kolezar et al. in order to gain the benefit of clearly displaying gene loci information to determine the relationship of the gene to other sequences and genes. Neville et al. state that their invention is to address the concern that the method is needed to aid in identify the correlations between genes, gene expression and phenotypes (page 1, paragraph 0003). For this purpose, Neville et al. disclose a method for characterizing particular genes and their alleles. However, Neville et al. disclose their findings in a series of Figures that does not allow further analysis of the sequences to determine their correlation with other genes, gene expression and phenotypes. Kolezar et al. discloses a method of displaying gene sequences in the form of different panes that allow the user to further analyze the sequences by retrieving more information about the sequences (column 2, lines 10-65). By allowing the user to retrieve more information, Kolezar et al.'s method aides a user in determining the relationships among genes (column 1, line 56-column 2, line 9). To further aide in the analysis process, Kolezar et al. also provide alignment tools and annotation information (column 5, lines 40-47; column 12, lines 35-57). Given that Neville et al. provides a goal of identifying the correlations between genes, one of

Art Unit: 1631

ordinary skill in the art would be motivated to include Kolezar et al.'s methods with Neville et al. in order to better analyze the relationship between genes and their alleles.

Regarding claims 2-5 and 15-18, Neville et al. disclose where the emission intensity values are emissions from a scanned probe array (page 21, paragraph 0219-0220); wherein the probes are genotyping probes (page 4, paragraph 0029- page 5, paragraph 0032), sequencing probes (page 21, paragraphs 0218-0221), or SNP probes (page 21, paragraphs 0218-0221).

Regarding claims 6, 7, 19, and 20, Neville et al. disclose where the genotype call includes a A, G, C, T or (n) call (page 32, paragraph 0319) or a SNP call (page 32, paragraph 0319; Figure 17; page 33, paragraph 0331- page 34, paragraph 0333).

Regarding claims 13 and 26, Kolezar et al. disclose wherein the annotation information is received in response to the user and the annotation information is displayed (column 5, lines 40-47).

Regarding claims 28 and 33, Neville et al. disclose wherein the models may be no call, homozygote model, and a heterozygote model (page 32, paragraph 0319)

Regarding claims 29, 31, 32, 34, 36, and 37, Kolezar et al. discloses a selection of any region of a sequence (column 5, lines 40-47; column 11, line 40- column 12, line 35); and an graphical representation of the alignment of sequence information (column 12, lines 35-57).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571) 272-2561. The examiner can normally be reached on 10:00am-6:30pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Representatives are available to answer your questions daily from 6 am to midnight (EST). When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It

Art Unit: 1631

also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center at (800) 786-9199.

MICHAEL BORIN, PH.D
PRIMARY EXAMINER



JL